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From general to student-specific teacher self-efficacy

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CHAPTER 1

GENERAL INTRODUCTION

"As an elementary school teacher, I've come across many tough and challenging classes, but they didn't warn me for this one. The first school period was simply hell. Sophie has symptoms of ADHD and ODD, and she's just uncontrollable, constantly testing me. She's not the only one, though. Of the 16 students in my class, five have serious conduct problems. There have been days that I left with a sore throat, almost feeling like a third-year student teacher again."

– Teacher Relationship Interview with Anna, a fourth-grade teacher

The realities of today's elementary classrooms, where children with various backgrounds, needs, and (dis)abilities are educated side by side, make a strong appeal to teachers' ability to organize and execute their daily teaching tasks. Since the inception of Dutch national policies geared toward *inclusive* and *appropriate* education (Ministry of Education, Culture and Science, 2014)[1], teachers are increasingly required to design individualized education plans to fit the learning needs of all students, and to provide the behavioral, social, and emotional supports that help these students participate in all aspects of school life (Derriks, Ledoux, Overmaat, & van Eck, 2002; Schram, van der Meer, & van Os, 2012; Smeets & Rispens, 2008; van Gennip, Marx, & Smeets, 2007). Catering for appropriate education and adequately dealing with a diverse student body is, however, not always as straightforward as it may seem. According to recent national reports, about half of Dutch regular elementary teachers do not believe themselves capable of dealing with students who differ in behavior and educational needs, despite having all kinds of valuable teaching knowledge, skills, and expertise (e.g., Smeets et al., 2013; Smeets, Blok, & Ledoux, 2013; Smeets, Ledoux, Regtvoort, Felix, & Mol Lous, 2015). This seeming discrepancy between teachers' actual competencies on the one hand and their ultimate behaviors, feelings, and actions on the other has spurred many educational researchers, both in the Netherlands and beyond, to investigate the concept of *teacher self-efficacy*.

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[1] Appropriate Education Act, August 2014 [*Wet Passend Onderwijs, augustus 2014*].

Teacher self-efficacy (TSE), or teachers' beliefs in their capabilities to "organize and execute the courses of action required to produce given attainments" (Bandura, 1997, p. 3), has nowadays been increasingly considered as one of the central determinants of teachers' thought processes, motivation, affective states, and actions (Bandura, 1977, 1986, 1997; Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998; Woolfolk Hoy, Hoy, & Davis, 2009). A vast body of evidence has suggested that highly self-efficacious teachers are generally likely to perceive difficult students as less challenging, to take more adequate approaches to improving their students' behaviors and performances in class, and to bend over backwards to ensure they succeed (e.g., Almog & Schechtman, 2007; Brownell & Pajares, 1999; Caprara, Barbaranelli, Steca, & Malone, 2006; Dunn & Rakes, 2011; Martin & Sass, 2010). Less self-efficacious educators, like Anna in the beginning of this chapter, have frequently been demonstrated to impair their own functioning by magnifying the severity of possible stressors in the classroom, avoiding difficult teaching tasks, and settling for mediocre results (Bandura, 1997; Hamre, Pianta, Downer, & Mashburn, 2008). Unfortunately, such inefficacious trains of thought may typically pay off in performance failures and negative changes in students' academic adjustment and teachers' well-being (e.g., Brouwers, Evers, & Tomic, 2001; Caprara, Barbaranelli, Borgogni, & Steca, 2003; Klassen & Chui, 2010; Klassen et al., 2013).

To understand why elementary teachers at times are able to translate their knowledge into proficient action and in other cases somehow fail to orchestrate and sustain the skills, motivation, and effort required for meeting the goals of appropriate education, it seems important to gain insight into TSE in relation to individual students with different behaviors and needs. Such knowledge is crucial for a comprehensive understanding of teachers' dealings with diversity in the classroom, yet currently lacking due to several conceptual and methodological issues. The overarching goal of the present dissertation, therefore, is to take stock of the current state of theory and research on teacher self-efficacy, and address several major challenges the field of TSE is facing at present.

To set the context for this dissertation, the first section of this General Introduction provides a brief overview of Bandura's (1977, 1986, 1997) social-cognitive theory. This theory of human agency has since long been considered as the dominant framework for studying teachers' sense of self-efficacy. Based on the basic tenets of this framework, several challenges in the field of TSE are subsequently brought to the fore that seem to have hampered its breadth of influence and practical usefulness to both educational researchers and practitioners alike. In closing this

chapter, a brief outline is provided of how these theoretical, empirical, and methodological challenges will be addressed in the remaining chapters of this dissertation.

FOUNDATIONAL TENETS OF TEACHER SELF-EFFICACY

Teachers' sense of self-efficacy has generally been embedded in the concepts of Bandura's (1977, 1986, 1997) social-cognitive theory. With this framework, Bandura has advanced a view of human agency that accords a prominent role to both environmental events and thought processes in human adaptation and change. Put another way, the *social* aspect of social-cognitive theory adheres to the nowadays common notion that human functioning is, in essence, deeply embedded in social conditions (cf. Bandura, 1997; Bronfenbrenner & Morris, 1998; Ryan & Deci, 2002; Sameroff & Fiese, 2000). What this idea basically indicates is that the *environments* in which people operate, including family homes, schools, and workplaces, and the *persons* with whom they interact on a daily basis, may offer enabling resources or impose constraints for their behaviors and actions in given domains of functioning. Specific to the context of teaching, for instance, studies have documented a myriad of factors positively contributing to teachers' classroom achievements, such as decision latitude, social support from parents and colleagues, and students' interest in their schoolwork (Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007; Cheung, 2008; Raudenbusch, Rowan, & Cheung, 1992; Tschannen-Moran & Woolfolk Hoy, 2007). Other features, including changing school policies, deficient equipment, and disruptive student behavior in class, have frequently been marked as the sources of challenge elementary teachers usually report (e.g., Fernet, Guay, Senécal, & Austin, 2012; Roehrig, Pressley, & Talotta, 2002; Smeets et al., 2015). In this sense, the classroom environment may stand as teachers' primary venue for learning about what they can do in given teaching domains.

It is not to say, however, that teachers should be considered as simply automated conveyers of environmental constraints or resources. Rather, they are generally believed to actively contribute to their own development and everyday functioning by exercising some control over their thoughts, feelings, and actions (Bandura, 1977, 1986). This is where the *cognitive* part of social-cognitive theory comes in. According to Bandura (1997), all humans possess a set of internal personal attributes, the most important of which are self-efficacy beliefs, that enable them to choose particular courses of action from among other alternatives to attain the goals they wish to pursue in a given domain. For example, elementary school teachers with substantial instructional expertise may feel effective and confident in implementing

differentiated instruction and act accordingly in obedient and orderly classrooms. At the same time, however, these teachers may shy away from the same activity when they sense the classroom environment surmounts their skills and capabilities to perform the task. By exercising this self-influence, teachers may thus operate generatively and proactively, and not only reactively, to chart the contours of their environment (Bandura, 2001).

Taken together, then, how teachers cognitively interpret social constraints and resources in class may inform and alter their behaviors and actions, the results of which may subsequently lead to changes in both the classroom environment and teachers' self-efficacy. This is the foundation of Bandura's (1997) model of *triadic reciprocal causation*, within which personal internal factors, behavior, and environmental influences work in concert to influence human agency. Social-cognitive theory thus seems to adhere to and extend such other seminal frameworks as bio-ecological theory (Bronfenbrenner & Morris, 1996), dynamic systems theory (Sameroff & Fiese, 2000), and self-determination theory (Ryan & Deci, 2002), by emphasizing personal cognitions, and highly particularized self-efficacy beliefs in particular, as the core mechanisms of human agency.

Bandura's social-cognitive model has, perhaps owing to its intuitive appeal, made increasingly marked inroads into the literature on teacher self-efficacy. Since its inception in the late 1970s, numerous conceptualizations of TSE have come onto the scene (cf. Dellinger, Bobbett, Olivier, & Ellett, 2008; Gibson & Dembo, 1984; Labone, 2004; Tschannen-Moran et al., 1998), and theoretical models incorporating a variety of antecedents and consequences have been devised and (sometimes) tested (e.g., Tschannen-Moran et al., 1998; Woolfolk Hoy et al., 2009; Wyatt, 2016). Evidently, these theoretical and empirical efforts have contributed a great deal to our understanding of the potential role of teachers' self-efficacy beliefs in shaping their behaviors in class. Yet, some of the key conceptions behind the self-efficacy construct are far from being fully explored, thereby potentially limiting the theoretical and practical utility of TSE and its breadth of influence.

CHALLENGES REGARDING THE NATURE AND CONSEQUENCES OF TSE

Perhaps one of the most pressing questions that has been asked frequently since Bandura introduced his social-cognitive model is which particular teaching behaviors, classroom processes, and student learning outcomes may be affected by teachers' self-efficacy beliefs. This seemingly simple question is not an easy one to address, however, since the field of

teacher self-efficacy has been dominated by different research traditions that may sometimes even be divided in itself (e.g., Henson, 2002; Tschannen-Moran & Woolfolk Hoy, 2001; Wyatt, 2014). For instance, the initial research on TSE attempted to verify that teachers' general self-efficacy beliefs were powerfully related to their own effectiveness and their students' performance (e.g., Armor et al., 1977; Gibson & Dembo, 1984). Somewhat confusingly, though, this strand of research was not only inspired by Bandura's social-cognitive scheme, but also by Rotter's (1966) locus of control theory, which centers on causal beliefs about the relationship between actions and outcomes (i.e., *outcome expectations*), instead of personal capability beliefs (i.e., *self-efficacy*). Accordingly, a considerable amount of research that allegedly concentrated on TSE may actually have examined a different construct, thereby confounding the theoretical base on which Bandura's construct is essentially built (e.g., Tschannen-Moran et al., 1998; Wyatt, 2014).

Next to this initial research tradition, other sets of investigations rapidly began to emerge as well. Some of these appeared to be mainly educational in nature, employing social-cognitive, self-determination, or classroom-based frameworks to investigate associations of (domains of) TSE with a wide range of teacher practices and classroom processes, most of which were investigated in isolated studies (e.g., Emmer & Hickman, 1991; Goddard & Goddard, 2001; Guo, McDonald Connor, Yang, Roehring, & Morrison, 2012; Martin & Sass, 2010). Other, more recent studies emerged from the psychological field of stress and well-being, examining TSE and other self-referent processes (e.g., self-esteem, self-concept, and competence) in relation to such factors as burnout, retention and attrition, job commitment, and satisfaction (e.g., Brouwers & Tomic, 2000; Klassen & Chiu, 2010, 2011; Skaalvik & Skaalvik, 2007, 2010). By concentrating on such related views of TSE, these studies might have overlooked the construct's full complexity and context-specific nature, or referred to entirely different things (Bandura, 1997).

In conclusion, then, the various research traditions that developed over the past forty-odd years seem to have resulted in a massive body of work on TSE and its consequences that is both fragmented and conceptually confused (cf. Klassen, Tze, Betts, & Gordon, 2011; Wyatt, 2014). To improve the applicability of this current literature to educational practice, an integrative, Bandura-based framework to synthesize the literature on TSE and its associations with a range of adjustment outcomes at different levels of classroom ecology seems, therefore, to be needed. Without such a perspective, it seems near impossible to yield an accurate,

theoretical representation of the nature of TSE, and to understand the separate findings emerging from each prevailing research tradition.

CHALLENGES REGARDING THE MEASUREMENT OF TSE

Given the fragmented and conceptually confused foundation of the TSE literature, it is perhaps not surprising that challenges regarding the measurement of TSE have also been at the forefront of much of the work in the field. Markedly, this attention to measurement started as soon as the very first teacher self-efficacy measure (Rand scale; Armor et al., 1977) came onto the scene. This scale only consisted of two plain, rather unanalytical items that, as it turned out later, bore a closer resemblance to Rotter's (1966) idea of locus of control than Bandura's self-efficacy theory. As such, great concern began to arise about the length of self-efficacy scales, their scale reliability and validity, and their relevance to Bandura's social-cognitive scheme (Tschannen-Moran & Woolfolk Hoy, 2001; Woolfolk Hoy et al., 2009). In an attempt to improve the psychometric properties of the Rand measure and to give allegiance to Bandura's theoretical notions, various researchers therefore started to develop new instruments to measure TSE. Of these instruments, the more *general* Teacher Efficacy Scale (TES; Gibson & Dembo, 1984) and *domain-specific* Teacher Sense of Efficacy Scale (TSES; Tschannen-Moran & Woolfolk Hoy, 2001) have, by far, been the most popular.

Regrettably, though, both instruments by no means seem to plumb the depths of the teacher self-efficacy belief system. The TES, for instance, seems to treat teachers' sense of self-efficacy simply as a *general* construct, defined at the *classroom-level* of analysis, thereby obscuring potential variation in teachers' self-percepts of efficacy across teaching tasks and domains (Bandura, 1997; Tschannen-Moran et al., 1998; Wheatley, 2005). In addition, the TSES, despite being "superior to previous measures of teacher efficacy in that it has a unified and stable factor structure" (Woolfolk Hoy & Burke Spero, 2005, p. 354), has partly failed to take account of the *social* part of Bandura's social-cognitive theory. Specifically, the TSES is, in the first place, somewhat limited with regard to the domains of teaching and learning it aims to examine. In the standard version of this instrument, teachers are usually presented with 24 items portraying tasks regarding instructional strategies, classroom management, and student engagement (Tschannen-Moran & Woolfolk Hoy, 2001). Although these teaching domains are certainly representative of teachers' daily activities, they may not fully reflect the breadth of teachers' activities. Indeed, other responsibilities, including teachers' responsiveness to children's social-emotional needs and their regard for students' perspectives, have also been acknowledged to

be crucial areas of teaching and learning (cf. Hamre, Hatfield, Pianta, & Jamil, 2014; Pianta, La Paro, & Hamre, 2008). Such areas may be particularly important to advance understanding of teachers' perceived ability to deal with a diverse student population. Therefore, a good, consensually shared conceptual analysis of what it takes for teachers to succeed in their job is currently needed to identify additional domains of teaching and learning across which TSE can vary (Bandura, 1997).

In the second place, the TSES tends to examine teachers' self-percepts of efficacy at inappropriate levels of specificity. According to Bandura (1997, 2006), the specificity of teachers' self-efficacy beliefs can vary on a number of different dimensions, including the domains of functioning, the task demands, and the characteristics of the persons toward whom teachers' behavior is directed. Evidently, the TSES deserves credit for capturing a range of tasks and responsibilities within different domains of teaching and learning at the classroom-level of analysis. Yet, the *persons* toward whom teachers' behaviors and actions are directed have largely gone unheeded in this instrument. This is remarkable, given that Tschannen-Moran and colleagues (1998) seem to be well aware of the highly context-specific nature of TSE: "Teachers feel efficacious for teaching particular subjects to certain students in specific settings, and they can be expected to feel more or less efficacious under different circumstances" (pp. 227-228). Hence, major progress in understanding how TSE operates in a model of triadic reciprocal causality can be made only if these beliefs are explicitly measured in terms of particularized capability judgments that may vary under different levels of task demands within given teaching domains (i.e., *domain-specificity*), and across different persons toward whom teachers' behavior is directed (i.e., *student-specificity*). Such measures may be more practically relevant in that they may reveal in which teaching areas TSE may be beneficial or problematic, and toward which particular students they feel efficacious. In addition, instruments that are both domain- and student-specific gauge the nature of the teacher self-efficacy construct in ways that it may better reflect Bandura's social-cognitive frame.

CHALLENGES REGARDING THE FORMATION AND DEVELOPMENT OF TSE

One last major challenge is the general lack of understanding about the various sources of TSE and underlying processes through which such sources may become instructive to teachers' self-efficacy beliefs across time. Based on Bandura's triadic reciprocal model (1986, 1997), it is reasonable to presume that teachers' self-efficacy beliefs are mainly derived from rich, reciprocal interactions with their immediate environment over extended periods of time. These

teacher-environment interactions may, according to Bandura (1997), provide various types of information that are relevant for judging personal capabilities, including classroom mastery experiences, modeled attainments, performance feedback, and affective states. In line with this assertion, a handful of research on the sources of TSE has provided modest evidence that teachers are likely to build a healthy sense of general self-efficacy when they are usually satisfied with their past classroom performances, are able to cope with psychological stressors, and when parents and colleagues express faith in their capabilities (e.g., Bandura, 1997; Cheung, 2008; Klassen & Chui, 2010; Ross, Cousins, & Gadalla,1996; Ruble, Usher, & McGrew, 2011; Salanova, Llorens, & Schaufeli, 2011; Tschannen-Moran & McMaster, 2009; Tschannen-Moran & Woolfolk Hoy, 2007). Moreover, studies on the development of TSE (e.g., Brouwers et al., 2001) disclosed a feedback loop in which teachers' affective state predicted their self-efficacy beliefs for classroom management and vice versa.

Perhaps due to the above-noted lack of domain- and student-specific TSE measures, virtually none of these investigators have yet considered teachers' encounters with individual students as the primary conduit through which teachers may gain access to efficacy-relevant information and build their TSE. This lack of attention to student–teacher interactions and –relationships in the TSE literature is noteworthy, as individual students' idiosyncratic behaviors, feelings, and needs in relation to their teachers may provide the most important evidence of whether teachers can muster whatever it takes to succeed with the child (Pianta, Hamre, & Stuhlman, 2003). Empirical evidence from Spilt and Koomen (2009) has suggested, for instance, that teachers judge themselves as angrier and less self-efficacious in relation to individual students who display disruptive behavior in class. Other studies have spawned some evidence that poor relationships with students may lead to increases in emotional vulnerability in teachers, and may result in feelings of professional and personal failure (e.g., Hamre et al., 2008; Newberry & Davis 2008; O'Connor 2008; Spilt et al., 2011; Yeo, Ang, Chong, Huan, & Quek, 2008). In light of these findings, it seems important to update, expand, and improve the available information on the sources of TSE, by shifting the focus to individual students' behaviors and characteristics, and exploring how teachers may derive their self-efficacy beliefs from their relationships with these children over time.

ADDRESSING THE CHALLENGES OF THE TEACHER SELF-EFFICACY LITERATURE

In summary, ever since Bandura presented his seminal theory on human agency, educationists have explored the construct of TSE in multiple ways such that we currently know much more

about teachers' capability to give shape to their actions in class and motivate and regulate their execution. Yet, the absence of a clear understanding of the nature, sources, and consequences of TSE, and psychometrically sound instruments that give full allegiance to Bandura's ideas may have prevented the field from moving forward (cf. Henson, 2001; Tschannen-Moran et al., 1998; Wheatley, 2005; Wyatt, 2014). As such, it seems difficult to identify useful research-based insights about TSE that may help teachers better deal with a diverse student body and meet the goals of appropriate education. The remaining chapters of the present dissertation, therefore, aim to address the current challenges in the field of TSE in four different ways.

Starting out at the most general, *classroom-level* of analysis, the second chapter of this dissertation specifically aims to address current challenges regarding the nature of TSE and its consequences for a range of outcomes at various levels of classroom ecology. Inspired by the realization that the field of TSE still reflects a corpus of relatively fragmented and conceptually confused empirical work, a process-oriented model of TSE is proposed that largely resembles the CLASS, one of today's leading frameworks for research on classroom processes (Pianta & Hamre, 2009; Pianta et al., 2008). The CLASS highlights three domains of student–teacher interactions, including instructional support, classroom organization, and emotional support, that are nowadays considered to be the most germane to teachers' functioning and students' development (see Downer, Sabol, & Hamre, 2010). For this reason, this triad of domains was used heuristically to organize and synthesize the body of empirical work on TSE and its consequences, and to suggest new directions for the field.

Based on these recommendations as well as those of Bandura (1997, 2006), the focus subsequently shifts to the *student-level* of analysis in Chapter 3. Central to this chapter is the aim to advance understanding of the multifaceted nature of teachers' sense of self-efficacy in upper elementary school (Grades 3 to 6). To this end, a new teacher self-efficacy scale, based on Tschannen-Moran and Woolfolk Hoy's (2001) TSES was developed and evaluated. This new instrument attempted, first, to address challenges regarding the domains across which teachers' self-efficacy beliefs may fluctuate, by adding a fourth teaching domain to the original TSES. Second, the original TSES was adapted to the student-specific level to gain insight into potential variations in teachers' self-efficacy beliefs across individual students from their classrooms. The specifics of the new domain- and student-specific measure, as well as its association with the TSES at the general, *classroom-level* are also described in Chapter 3.

Fully refraining from teachers' self-efficacy beliefs at the classroom-level of analysis, Chapter 4 aims to explore individual students' background characteristics and social-emotional behaviors as *sources* of upper elementary teachers' domain- and student-specific self-efficacy beliefs. Here, the predictive value of individual students' internalizing, externalizing, and prosocial behaviors are investigated, as is the moderating role of teachers' perceived classroom misbehavior and years of teaching experience on their student-specific self-efficacy beliefs.

The issue of the formation and development of domain- and student-specific TSE is carried further as Chapter 5 aims to explore a theoretical model within which teachers' perceptions of closeness and conflict in the student–teacher relationship are hypothesized to form the intermediary mechanisms by which individual students' disruptive behavior may affect teachers' student-specific self-efficacy over time. Theoretical and empirical knowledge in this direction may help educational researchers and practitioners identify levers to increase teachers' self-efficacy toward individual students with different behaviors and needs, and thereby improve these students' classroom experiences and academic adjustment.